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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,348	09/18/2003	Kiruba Sivasubramaniam	124711	8185

7590 12/29/2004

General Electric Company  
GRC Patent Docket Rm 4A59  
Bldg. K-1  
P.O. Box 8  
Schenectady, NY 12301

EXAMINER

VAN, QUANG T

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/666,348

Applicant(s)

SIVASUBRAMANIAM ET AL.

Examiner

Quang T Van

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 9-19 and 26-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Election/Restrictions***

1. Applicant's election with traverse of Species I (Figure 1, claims 1-8 and 20-25) in the reply filed on November 16, 2004 is acknowledged. Claims 1-8 and 20-25 are treated on the merit and non-elected claims 9-19 and 26-37 are withdrawn from consideration. The traversal is on the ground(s) that "although claims 11-12 and 28-29 may not be generic, they likewise are not mutually exclusive with respect to any other claim in the pending application. In fact, the only claims that might be considered mutually exclusive are claims 9, 18 and 26 as they apply to claims 10, 19 and 27. However, Applicant submits that a search and examination of claims 9, 18, 26 and claims 10, 19, 27 within the same application would not pose a serious burden upon the Examiner". This is not found persuasive.

The applicant is referred to MPEP 809.02 (a), which states the requirements for an election of species requirement. Note especially section (B) which states that "the species are preferably identified as the species of figures 1, 2, and 3" and that the distinguishing characteristics of the species should be stated only "in the absence of distinct figures of examples".

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The requirement is still deemed proper and is therefore made FINAL.

***Specification***

2. The abstract of the disclosure is objected to because the legal phraseology such as "comprises" or "**comprising**" often used in patent claims should be avoided in the abstract. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6, and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Marron et al (US 4,093,435). Marron discloses total heat energy exchangers comprising a plurality of heat transfer plates (18), each of said heat transfer plates (18) being disposed radially with respect to a core axis and a plurality of core sections (13) disposed between respective pairs of said heat transfer plates (18) and shaped to form a cylindrical core assembly (figure 1).

5. Claims 1-4, 8, 20-22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer, Jr. (US 4,769,053). Fischer discloses a sensible and latent heat exchange media comprising a plurality of heat transfer plates (36), each of said heat transfer plates (36) being disposed radially with respect to a core axis and a plurality of core sections (12) disposed between respective pairs of said heat transfer plates (36) and shaped to form a cylindrical core assembly (figure 1).

6. Claims 1-3 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al (US 5,871,349). Johnson discloses a rotary valve thermal oxidizer comprising a plurality of heat transfer plates (24), each of said heat transfer plates (24) being disposed radially with respect to a core axis and a plurality of core sections (17) disposed between respective pairs of said heat transfer plates (col. 4, lines 7-11) and shaped to form a cylindrical core assembly (figure 1).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5, 7 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Marron et al (US 4,093,435) in view of Hattori et al (US 5,941,302). Marron discloses substantially all features of the claimed invention except heat transfer plates comprising material or combination of materials selected from the group consisting of aluminum nitride and boron nitride. Hattori discloses heat transfer plates comprising material or combination of materials selected from the group consisting of aluminum nitride and boron nitride (col. 5, lines 35-37). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Marron heat transfer plates comprising material or combination of materials selected from the group consisting of aluminum nitride and boron nitride as taught by Hattori in order to provide better heat transfer plates. With regard to claim 5, Hattori only discloses heat transfer

plates comprising material or combination of materials selected from the group consisting of aluminum nitride and boron nitride (col. 5, lines 35-37), but does not disclose said outer shell comprising a material or combination of materials selected from the group consisting of aluminum nitride and boron nitride. It would have been obvious to one having ordinary skill in the art to make outer shell comprising a material or combination of materials selected from the group consisting of aluminum nitride and boron nitride. Doing so would provide an outer shell being made of material be able to transfer heat as same as heat transfer plates.

9. Claims 5-7 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Fischer, Jr. (US 4,769,053) in view of Kramer et al (US 2004/0250999). Fischer discloses substantially all features of the claimed invention except said heat transfer plates comprising a metal or combination of metals. Kramer discloses heat transfer plates comprising a metal or combination of metals (par. 0018). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Fischer heat transfer plates comprising a metal or combination of metals as taught by Kramer in order to provide better heat transfer plates. With regard to claim 5, Kramer only discloses heat transfer plates comprising material or combination of materials selected from the group consisting of aluminum nitride and boron nitride (par. 0018), but does not disclose said outer shell comprising a material or combination of materials selected from the group consisting of aluminum nitride and boron nitride. It would have been obvious to one having ordinary skill in the art to make outer shell comprising a material or combination of materials selected from the group consisting of

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aluminum nitride and boron nitride. Doing so would provide an outer shell being made of material be able to transfer heat as same as heat transfer plates.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Johnson et al (US 5,871,349) discloses a rotary valve thermal oxidizer.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QV  
December 21, 2004



Quang T Van  
Primary Examiner  
Art Unit 3742